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| 10/725,980 | 12/01/2003 | Radoslav Danilak | NVID-P000817 | 4928 |
| 45594 7590 12/24/2008 NVIDIA C/O MURABITO, HAO & BARNES LLP TWO NORTH MARKET STREET THIRD FLOOR SAN JOSE, CA 95113 | | | | |
| EXAMINER | | | | |
| LEE, CHUN KUAN | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2181 | | | | |
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| 12/24/2008 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/725,980

Applicant(s)

DANILAK, RADOSLAV

Examiner

Chun-Kuan Lee

Art Unit

2181

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 09/28/2008
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Inventor's Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

CONTINUED EXAMINATION UNDER 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/05/2008 has been entered.

I. ACKNOWLEDGEMENT OF REFERENCES CITED BY APPLICANT

2. As required by **M.P.E.P. 609(C)**, the applicant's submissions of the Information Disclosure Statement dated September 26, 2008 is acknowledged by the examiner and the cited references have been considered in the examination of the claims now pending. As required by **M.P.E.P 609 C(2)**, a copy of the PTOL-1449 initialed and dated by the examiner is attached to the instant office action.

II. OBJECTION TO THE CLAIMS

3. Claims 1, 8-9, 13-16 and 20-22 are objected to because of the following informalities:

in claim 1, lines 3 and 11, "a disk I/O" should be replaced with -the disk I/O-.

in claims 8, 13 and 20, line 2, "version of the ATA standard" should be replaced with -version of ATA (advanced technology attachment) standard-.

in claim 9, lines 5 and 17, "a disk I/O" should be replaced with -the disk I/O-.

in claim 14, lines 10 and 20, "a disk I/O" should be replaced with -the disk I/O-.

in claim 15, line 2, "a processor" should be replaced with -the processor-.

in claim 16, line 2 "within bridge component" should be replaced with -within the bridge component-.

in claim 21, line 3, "implement a disk transaction" should be replaced with -implement the disk I/O-.

in claim 22, lines 3-4, "aggregating said transaction information via a memory mapped data transfer from a processor of said computer system" should be replaced with -aggregating said disk transaction information via a memory mapped data transfer from the processor of said computer system-.

Appropriate correction is required.

III. REJECTIONS BASED ON 35 U.S.C. 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, recites the limitation "the completion" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim 9, recites the limitation "the completion" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 14, recites the limitation "the completion" in line 15. There is insufficient antecedent basis for this limitation in the claim.

5. Claims 1, 9 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements and steps, such omission amounting to a gap between the elements. See MPEP § 2172.01.

The omitted elements and steps are: "a plurality of PRD (physical region descriptor) data structures and a plurality of CPB (command parameter block) data structures," "subsequent to completing the disk transaction information preparation, transferring the disk transaction information to a plurality of bypass registers," and "implementing the disk I/O after the disk controller receiving the transferred disk transaction information;" the examiner will assume the claimed limitation of the independent claims 1, 9 and 14 as following for the current examination.

6. As per claim 1, the examiner the claimed limitation as following: "... A bypass method for efficient disk I/O (input output) in a computer system, comprising:

upon receiving a request for the disk I/O from an application executing on the computer system, transferring a command to a disk controller, the command causing a start up of a disk drive coupled to the disk controller;

subsequent to transferring the command causing the start up and before completion of said start up, preparing disk transaction information by packaging a plurality of data structures including a plurality of PRD (physical region descriptor) data structures and a plurality of CPB (command parameter block) data structures comprising a disk transaction in response to said command;

subsequent to completing the disk transaction information preparation, transferring the disk transaction information to a plurality of bypass registers of the disk controller; and

implementing the disk I/O after the disk controller receiving the transferred disk transaction information, wherein the disk controller uses the disk transaction information to control the disk drive ...".

7. As per claim 9, the examiner the claimed limitation as following: "... A computer readable media having computer readable code which when executed by a processor of a computer system cause the computer system to implement a bypass method for efficient disk I/O (input output), comprising:

upon receiving a request for the disk I/O from an application executing on the computer system, transferring a command to a disk controller, the command causing a start up of a disk drive coupled to the disk controller;

subsequent to transferring the command causing the start up and before completion of said start up, preparing disk transaction information by packaging a plurality of PRD (physical region descriptor) data structures and a plurality of CPB

(command parameter block) data structures comprising the disk transaction in response to said command;

accessing a bridge component controlling a bus coupled to the disk controller;
subsequent to completing the disk transaction information preparation,
transferring the disk transaction information to a plurality of bypass registers of the disk controller via the bridge component; and

implementing the disk I/O after the disk controller receiving the transferred disk transaction information, wherein the disk controller processes the disk transaction information to control the disk drive ...”

8. As per claim 14, the examiner the claimed limitation as following: “-... A computer system for implementing a bypass method for efficient disk I/O (input output), comprising:

a processor;
a system memory coupled to the processor;
a bridge component coupled to the processor; and
a disk controller coupled to the bridge component, the disk controller including a plurality of bypass registers, wherein the processor executes software code stored in the system memory, the software code causing the computer system to implement a method comprising:

upon receiving a request for the disk I/O from an application executing on the computer system, transferring a command from the processor to the disk controller, the command causing a start up of a disk drive coupled to the disk controller;

subsequent to transferring the command causing the start up and before completion of said start up, preparing disk transaction information by packaging a plurality of data structures including a plurality of PRD (physical region descriptor) data structures and a plurality of CPB (command parameter block) data structures comprising the disk transaction in response to said command;

subsequent to completing the disk transaction information preparation, transferring the disk transaction information to the bypass registers of the disk controller; and

implementing the disk I/O after the disk controller receiving the transferred disk transaction information, wherein the disk controller processes the disk transaction information to control the disk drive ...”.

9. As per claims 2-8, 10-13 and 15-23, dependent claims 2-8, 10-13 and 15-23 are rejected at least due to direct/indirect dependency on the rejected independent claims 1, 9 and 14.

10. Claims 1, 9 and 14 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

IV. CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

The following is a summary of the treatment and status of all claims in the application as recommended by **M.P.E.P. 707.07(i)**:

a(1) CLAIMS REJECTED IN THE APPLICATION

Per the instant office action, claims 1-23 have received a first action on the merits and are subject of a first action non-final.

b. DIRECTION OF FUTURE CORRESPONDENCES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

IMPORTANT NOTE

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C.K.L./

December 22, 2008

Chun-Kuan (Mike) Lee
Examiner
Art Unit 2181

/Alford W. Kindred/

Supervisory Patent Examiner, Art Unit 2181